

Moisture Sensing Type Fiber Optic Amplifier with Manual Adjustable Potentiometer

- | Easy to turn sensitivity adjustment potentiometer Reliable
- | detection of water presence
- | Employs an infrared LED (wavelength:1.45μm) for the light source that are absorbed by water. D3IF-TN and the specialized fiber unit shown on the left.



Selection table

Type	Shape	Light source	Model (Models in parentheses are connector types)	
			NPN type	PNP type
Water detection		Infrared LED	BIF-WN (BIF-CWN)	BIF-WP (BIF-CWP)

● For the connector type, please purchase an optional JCN series connector cable.

Water detection fiber units (through-beam type/diffuse type)

Type	Dimensions (unit: mm)	Sensing distance (mm)		Ambient temperature	Bending radius (mm)	Model
		D3IF-TN	BIF			
Through-beam type	<p>Heat resistant</p>	7-EL 650 6-UL 350 5-PL 300 4-LG 250 3-ST 230 2-FS 150 1-HS 60	100	-40 to +200°C	R25	NF-TW01
Diffuse type	<p>Heat resistant</p>	7-EL 280 6-UL 125 5-PL 110 4-LG 100 3-ST 85 2-FS 45 1-HS 20	30	-40 to +200°C	R25	NF-DW01

- Use D3IF-TN or BIF-WN-CWN fiber amplifiers for water detection
- The sensing distances for the diffuse type fiber units are values on 500 × 500 mm white paper.
- Install with an ambient humidity between 35 and 85%. In the case of 85% RH, the ambient temperature should be between 0 and 40°C.

Fiber sensors which can detect water **BIF-WN, BIF-CWN**

Employs an LED (wavelength: 1.45 μm) for the light source that are absorbed by water. Detection of water is made possible using water detection amplifier BIF-WN and the specialized fiber unit shown below.

Through-beam type fiber unit **NF-TW01**

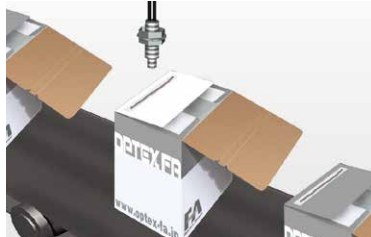
Sensing distance max. 100 mm



Detection of water-based chemicals in transparent bottles

Diffuse type fiber unit **NF-DW01**

Sensing distance max. 30 mm



Detection of water-based adhesives

10-turn potentiometer for sensitivity adjustment that can be turned using fingers

Features a 10-turn potentiometer for sensitivity adjustments that enables adjustments to be made easily, even when fine adjustments are necessary. Also, because it can be turned by fingers, there is no need to concern about screw threads will become damaged by screwdrivers.



Large indicators

Equipped with large indicators to enable easy confirmation of sensor operation status, even from far away.



Highly water resistant: IP66

Cleared the IP66 requirements for fiber-type amplifiers. Expands the possibilities in which sensors can be used in wet environments.

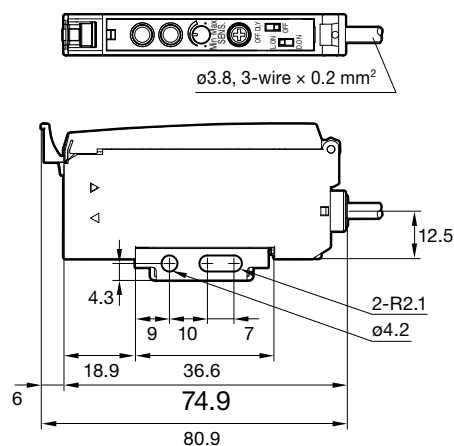
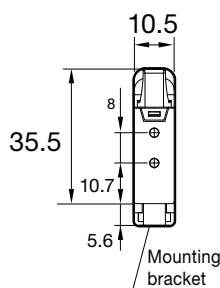
Specifications

2 Meter Cable Model	BIF-WN	BIF-WP
M8 4 Pin QD Model	BIF-CWP	BIF-CWP
Light Source	Infrared LED (wavelength 1450nm)	
Response Time	1ms	
Distance Adjustment	10-turn potentiometer	
LED Indicators	Orange (Output) - Green (Stability)	
Control Output	NPN open collector Max. 100 mA 30 VDC	PNP open collector Max. 100 mA 30 VDC
Timer Function	OFF delay 40ms (selectable)	
Output Mode	Light ON / Dark ON (selectable)	
Insulation resistance	20 MΩ or more (with 500 VDC)	
Supply voltage	10 to 30 VDC ±10%, including 10% ripple (p-p)	
Current Consumption	25mA (12VDC)	
Applicable Regulations	EMC directive (2004/108/EC	
Applicable Standards	EN 60947-5-2	
Company Standards	Noise resistance: Feilen Level 3 Cleared	
Ambient Temp/Humidity	-25 to +55°C / 35 to 85% RH (no freezing or condensation)	
Ambient illuminance	Sunlight: 10,000 lx or less Incandescent light: 3000 lx or less	
Vibration resistance	10 to 55 Hz; double amplitude 1.5 mm; 2 hours in each of the X, Y, and Z directions	
Shock resistance	Approx. 50 G (500 m/s ²), 3 times in each of the X, Y, and Z directions	
Degree of protection	IP66	
Material	Housing PBT , cover PC	
Weight	Cable Type: 71g / QD Type: 25g	
Included Accessory	Mounting Bracket	

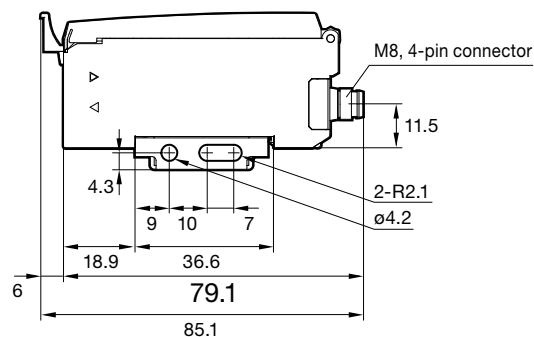
Dimensions

Fiber amplifier

■ Cable type



■ Connector type (Unit: mm)

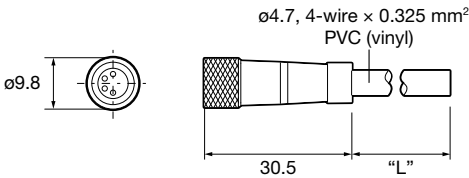


Dimensions

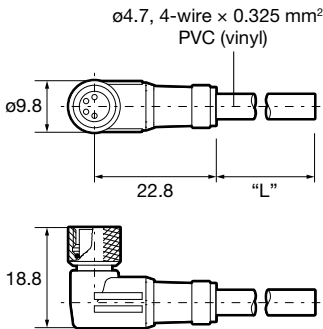
Connector cable (optional)

(Unit: mm)

■ JCN-S, JCN-5S, JCN-10S

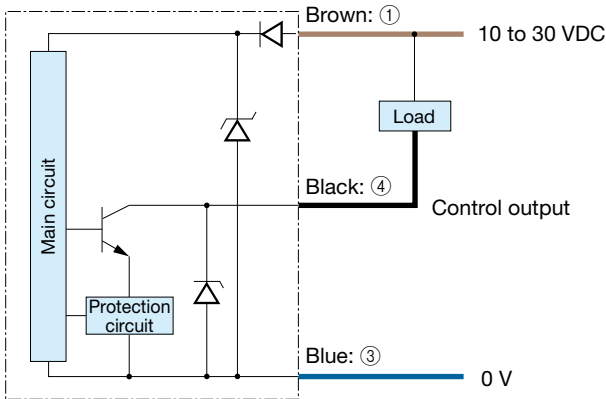


■ JCN-L, JCN-5L, JCN-10L

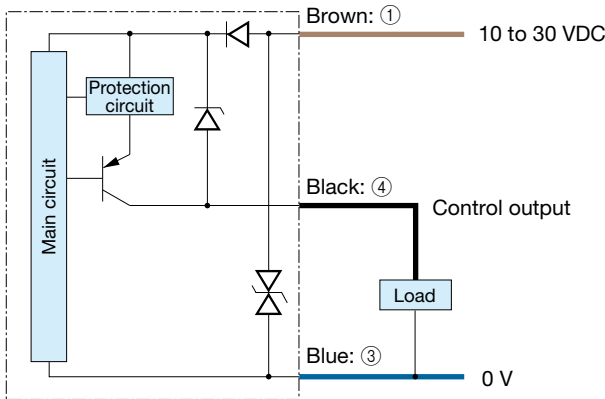


Output circuit diagram

■ NPN output type



■ PNP output type



■ Connector type

(Pin configuration) Sensor side Connector cable side



- ① 10 to 30 VDC
- ② —
- ③ 0 V
- ④ Control output

Connecting

■ ① to ④ are connector pin No.

Notes

- When using a switching regulator for the power supply, be sure to ground the frame ground terminal.
- Because wiring sensor wires with high-voltage wires or power supply wires can result in malfunctions due to noise, which can cause damage, make sure to wire separately.
- Avoid using the transient state while the power is on (approx. 100 ms).
- The connector direction is fixed as the drawing below when you use L-shaped connector cable. Be aware that rotation is not possible.

Options/Accessories

Connector cable

Straight



JCN-S
Cable length: 2 m
JCN-5S
Cable length: 5 m
JCN-10S
Cable length: 10 m

L-shaped



JCN-L
Cable length: 2 m
JCN-5L
Cable length: 5 m
JCN-10L
Cable length: 10 m

End plate



BEF-EB01-W190
(2 pieces)

